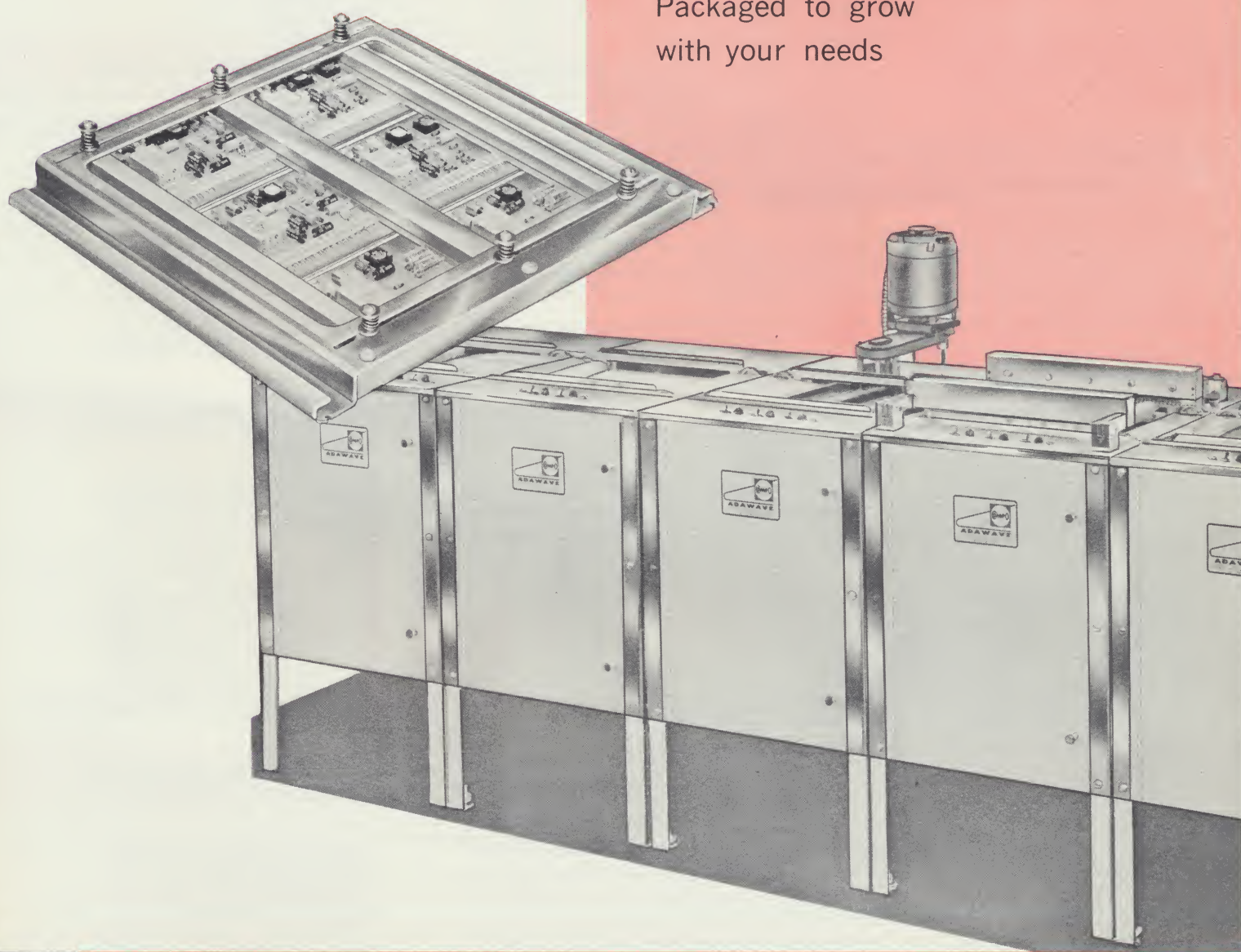


# COMPO ADAWAVE

REED & RIDDETT CO.  
LITTLETON COMMON, MASSACHUSETTS  
HUNTER 6-3932

## HOLLOW-WAVE SOLID-WAVE JET SOLDERING

in a modular Production System  
Packaged to grow  
with your needs



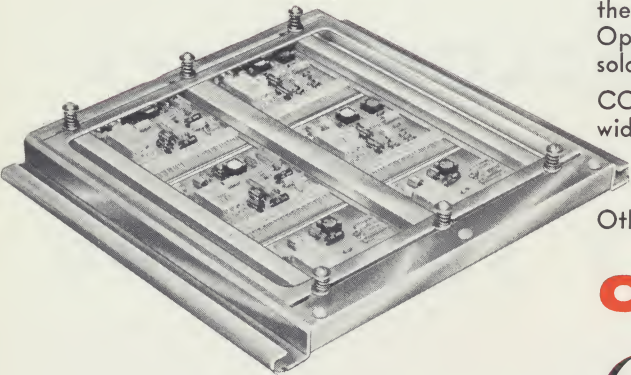
SPECIAL PRODUCTS DIVISION  
COMPO SHOE MACHINERY CORPORATION

125 ROBERTS ROAD  
WALTHAM 54, MASSACHUSETTS





**COMPO-ADAWAVE offers the ultimate in production and quality for soldering printed circuit boards and in-line terminals . . . at far lower cost.**



COMPO-ADAWAVE is a true production soldering system which replaces old fashioned hand or dip soldering. Operation is simple and trouble-free . . . work to be soldered is inserted in Compo Universal Fixtures or Nests and placed on the Adawave conveyor which carries the work over the various modules. Operation of these units is completely automatic, including fluxing, pre-heating, soldering, cleaning and drying.

COMPO-ADAWAVE Modules are available to accommodate 2 maximum widths of boards; there is no limitation on length.

Series 307 for boards up to 7" wide

Series 311 for boards up to 11" wide

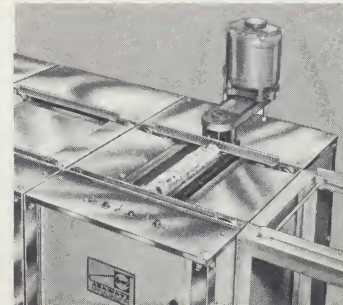
Other widths are obtainable on special order.

## **COMPO-ADAWAVE**

*Offers 3 soldering systems*

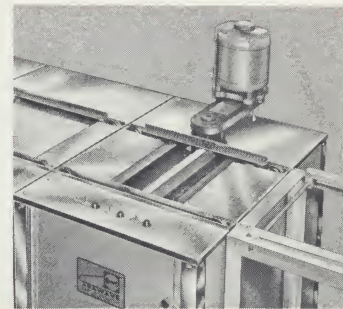
### **HOLLOW-WAVE SYSTEM**

Molten solder is pumped upward through an orifice in the pump which forms the metal into a relatively high, hollow, pulsating wave whose direction opposes that of the work on the conveyor. This hollow wave system permits Universal Fixtures or Nests carrying boards or other assemblies with protrusions, terminals or long component leads to pass over the system and be properly soldered. Control of solder flow volume, temperature and contact time can be controlled in accordance with the requirements of the work being processed. This means pre-fluxed surfaces move across the top of the wave and are soldered cleanly without bridging, tailing or icicling.



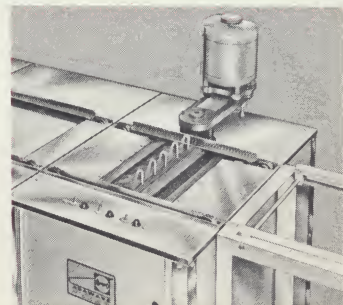
### **SOLID-WAVE SYSTEM**

The baffle used for the Hollow-Wave System is replaced by an adaptor header through which the molten solder is pumped. This adaptor produces a different wave shape — one that is fatter, lower and which supplies greater volume of solder to the board. This increased flow permits soldering at a higher transfer rate across the wave with soldering operations speeded up two to three times. The solid wave deposits a much thinner coating of solder and limits the length of protrusions on the side being soldered to approximately  $\frac{3}{16}$ ". Solid-Wave System greatly simplifies adjustment of wave, wave height and conveyor speed. End result produces the same high quality of soldering as the Hollow Wave System with higher production rates.

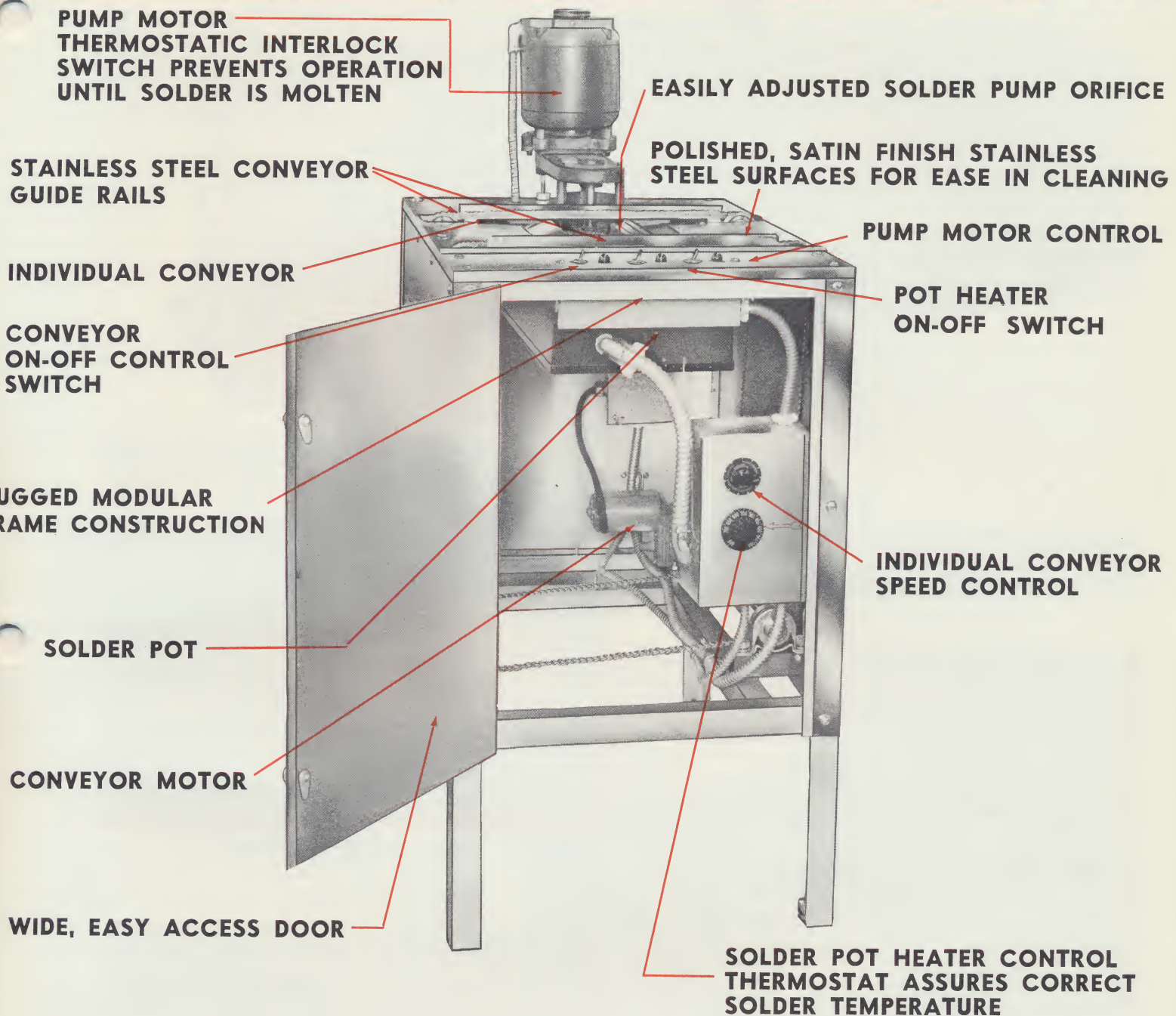


### **JET SOLDERING SYSTEM**

A special jet adaptor converts the basic solder unit into a jet soldering system. Prepositioned jets "shoot" molten solder upward against restricted areas of board. This system is especially desirable for soldering in-line terminals or component leads in clusters or individually, and where component may be on the same side of the board as the terminal to be soldered. Special converters are also available to permit partial wave soldering of a section while another part of the board is being jet soldered. Actual field tests have shown a substantial increase in production when this jet system has been used as opposed to the hand soldering method previously required.



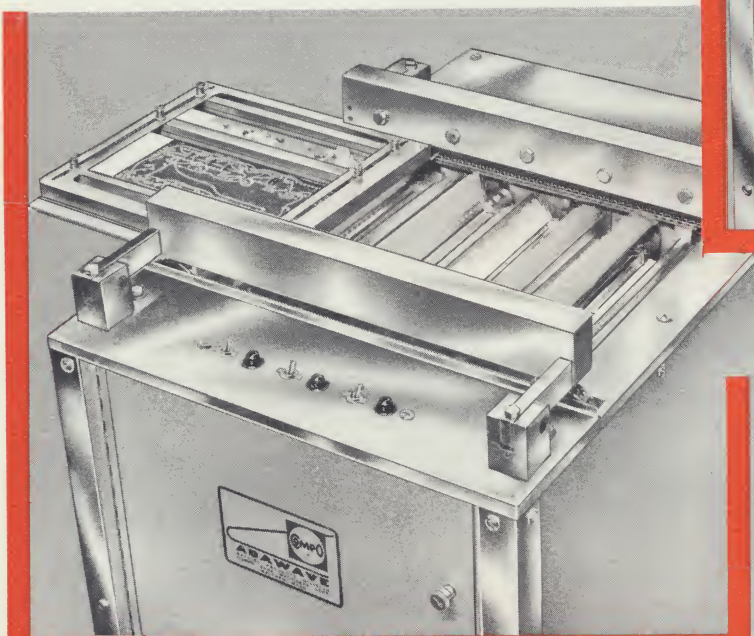
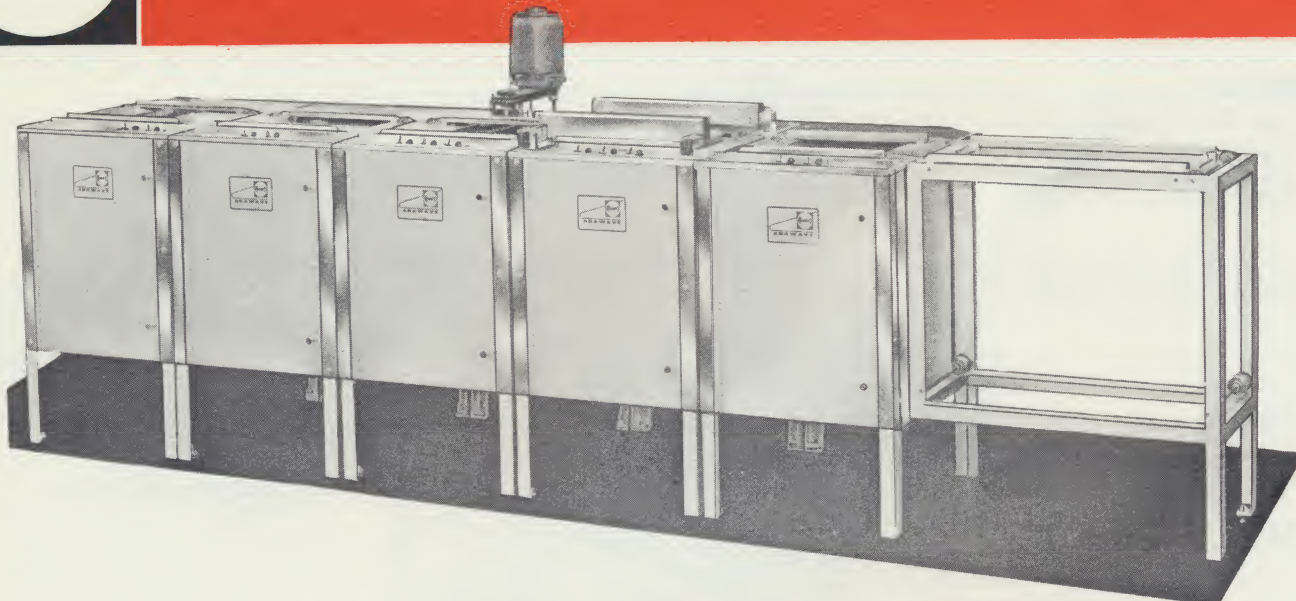




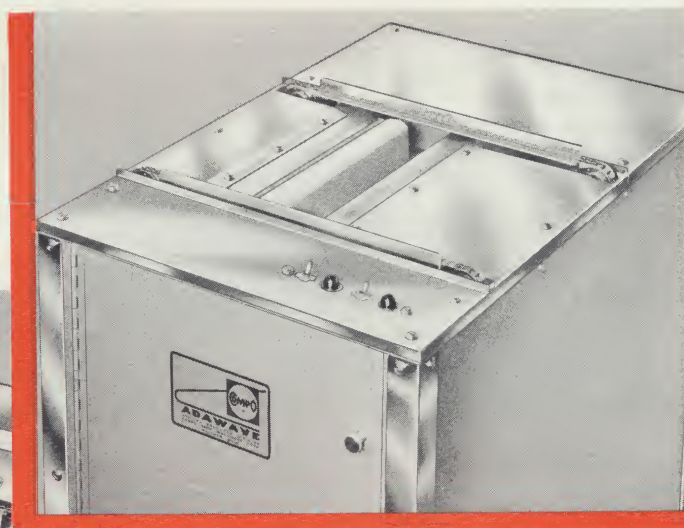
**COMPARE — see why COMPO-ADAWAVE Soldering is superior to dip soldering**

ADAWAVE SOLDERING	DIP SOLDERING
COMPO-ADAWAVE's compact stationary matched modules improve work space efficiency.	Non-matched equipments are slower, more costly, and need more space.
Work automatically conveyed continuously across solder wave.	Intermittent work flow frequently causes fractured joints, oxide inclusion, and heat degradation. The meticulous care required for this operation decreases production rate.
Short, controllable solder-work contact time permits setting solder temperature to optimum level.	To avoid work damage, contact time and solder temperature must generally be other than ideal.
Smooth operating COMPO-ADAWAVE produces strong, reliable joints. Minimum touch-up requirement.	Complicated control of speed, dip-angle, and temperature is necessary to prevent flux entrapment, air bubbles or other work damage. Additional finish work often needed.
COMPO-ADAWAVE modules handle any length of work.	Solder pot dimensions limit work size.
Solder is always clean and dross free.	Oxides and dross must be skimmed off before each operation.
Pulsating wave, with flow volume, temperature, and work speed controls, prevent bridging, tailing, and icicling.	Stationary solder and slow heat transfer cause bridging, etc. Common excess solder removal methods cause fractured joints.

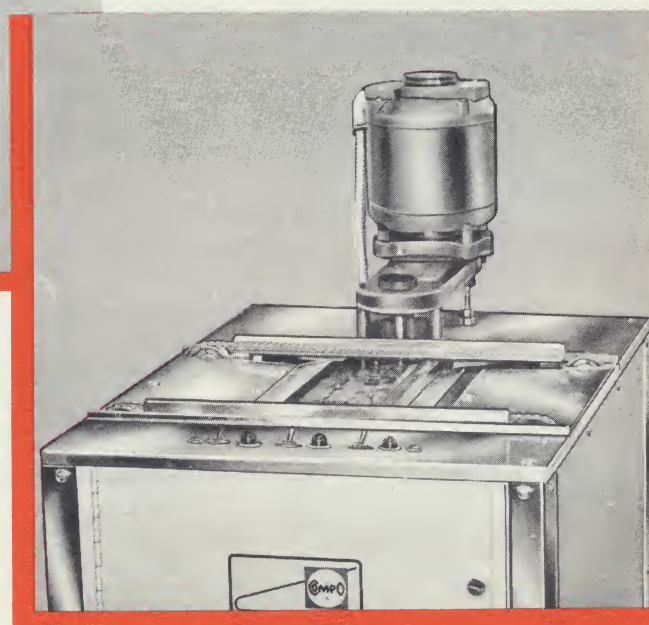




**CLEANING MODULE**



**FOAM FLUXING MODULE**



**SOLDER MODULE**

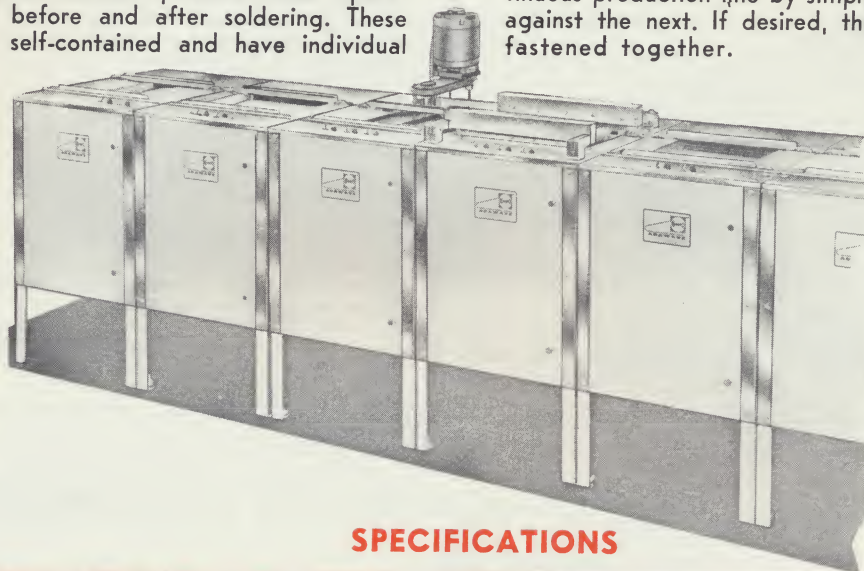


add modules as you need them . . .



Each module of COMPO-ADAWAVE is a completely self-contained unit that performs a single function. The solder module is the heart of the system. The other modules perform other operations required before and after soldering. These units are also self-contained and have individual

drives, conveyors, and controls. Although the modules function independently, they are designed as companion units that make up into one continuous production line by simply standing one unit against the next. If desired, the modules may be fastened together.



### SPECIFICATIONS

MODULE TYPE	Unit Name	Catalog No.	Power Requirements AC Line Current at		Auxiliary Needs
			110 volts	220 volts	
<b>SOLDER MODULE</b> The SOLDER MODULE receives pre-cleaned, pre-fluxed panels and passes them across its solder wave and delivers them completely and reliably soldered. Solder temperature, wave height, and conveyor speed are precisely controllable for best results.	<b>SOLDER MODULE</b>	307-3 311-3	1.7 Amps - Conveyor Motor	15 Amps - Heater	
<b>FOAM FLUXING MODULE</b> The FOAM FLUXING MODULE is a unique, air-operated liquid foam fluxer with its own conveyor and controls for correct flow. Small flux bubbles penetrate every required area with no unwanted coverage.	<b>FOAM FLUXING MODULE</b>	307-4 311-4	1.7 Amps - Conveyor Motor		Minimum 10 lbs./in <sup>2</sup> Shop Air
<b>PREHEATER MODULE</b> The PREHEATER MODULE is an infra-red radiant surface which raises the panel temperature to dry out flux solvents, prevent thermal shock, spatter, balling or gassing in holes. This is especially important when working with such items as plated through boards or heat sensitive base material.	<b>PREHEATER MODULE</b>	307-6 311-6	1.7 Amps - Conveyor Motor	15 Amps - Heater	
<b>CLEANING MODULE</b> Positioned ahead of the Fluxing Unit, the CLEANING MODULE, with counter-rotating brushes removes oxides from the under surfaces of the panels, hardware, and component leads. When used after soldering, it will remove flux residues. Two pairs of brushes and four tanks for cleaning and rinsing fluids are provided.	<b>CLEANING MODULE</b>	307-7 311-7	1.7 Amps - Conveyor Motor	11 Amps - Heater	
<b>VOLUMETRIC AIR-DRYING MODULE</b> The VOLUMETRIC AIR-DRYING MODULE, an advanced and complete drying system, removes all moisture from working surface of panels.	<b>VOLUMETRIC AIR-DRYING MODULE</b>	307-9 311-9	1.7 Amps - Conveyor Motor	7 Amps - Heater	
<b>SPACER MODULE</b> The SPACER MODULE is a conveyor which may be used to provide space for in-line assembly, inspection or other functions in conjunction with the over-all soldering processes.	<b>SPACER MODULE</b>	307-10 311-10	1.7 Amps - Conveyor Motor		
<b>COOLING MODULE</b> The COOLING MODULE gently returns panels to ambient temperature. Cool air, blowing through tubes, protects parts subject to heat degradation.	<b>COOLING MODULE</b>	307-11 311-11	1.7 Amps - Conveyor Motor		Minimum 25 lbs./in <sup>2</sup> Shop Air

All Modules are 35" High x 20" Wide x 30" Deep. Conveyor speeds are adjustable from 0 to 4 feet per minute.



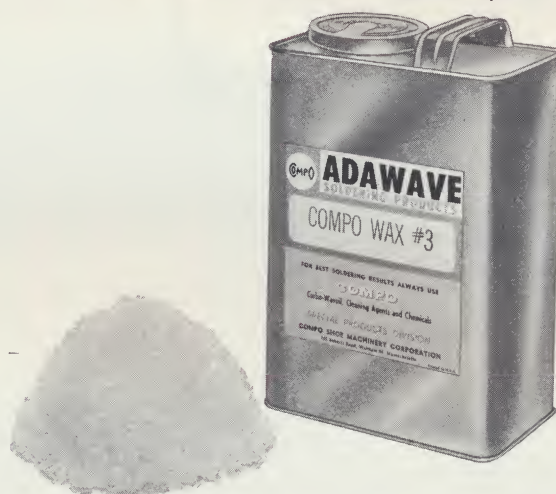
## ABOUT SOLDER AND FLUX

Many high quality solders and fluxes which will properly process printed circuit boards on COMPO-ADAWAVE equipment are commercially available. It is essential that only quality products be used to assure a satisfactory end result.

Engineers from Compo Special Products Division have substantial experience in selecting the materials best suited to specific applications. Since these products are not normally supplied by Compo, evaluation of these materials can be quite objective and based on performance. Special Products Division engineers are available for consultation on these matters without obligation.

## OTHER **COMPO-ADAWAVE** SOLDERING PRODUCTS

Compo has available a complete line of materials to minimize dross and oxide formation as well as special solvents for cleaning printed circuit boards. Technical Bulletins describing these products are available upon request.



## COMPO SPECIAL PRODUCTS DIVISION . .

embodies men, minds and machines all constantly at work to improve and advance soldering technique. The extensive Compo background in printed circuit production and fabrication gives the technical staff deep insight and thorough understanding of the many problems inherent in this field. Compo laboratories maintain a continuous research and development program based on field tests and laboratory analysis.

Included in the many test facilities is a fully equipped photographic laboratory and dark room to make micro photographs as well as photo enlargements of printed circuit board cross sections and soldered connections. In addition, equipment for accurate temperature measurements of the boards being soldered is available to permit proper determinations of the temperatures to which board, leads, components, etc. should be exposed. These tests enables specific recommendations for the optimum combination of temperature and speed of the soldering operation. Compo will also make sample runs of customers boards in order to establish proper soldering performance.

The Compo organization also offers wide skills in the design and manufacture of light and heavy machinery of various types. Coupled with the Special Products Division experience in printed circuit boards and soldering equipment, Compo offers substantial background to do an effective job in these areas. Compo customers range from small to large organizations involved in military, industrial and commercial types of business, both in and out of the electrical and electronic trade. These companies, regardless of size, have complete access to Compo engineering assistance, custom machine design and other phases of manufacturing. Inquiries will receive prompt attention.



*SPECIAL PRODUCTS DIVISION*  
**COMPO SHOE MACHINERY CORP.**

125 ROBERTS ROAD, WALTHAM, MASSACHUSETTS